



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0980; Project Identifier MCAI-2022-00448-P]

RIN 2120-AA64

Airworthiness Directives; Hoffmann GmbH & Co. KG Propellers

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2021-23-17, which applies to all Hoffmann GmbH & Co. KG (Hoffmann) model HO-V 72 propellers. AD 2021-23-17 requires amending the existing aircraft flight manual (AFM) by inserting abnormal propeller vibration instructions, visual inspection and non-destructive test (NDT) inspection of the propeller hub and, depending on the results of the inspections, replacement of the propeller hub with a part eligible for installation. Since the FAA issued AD 2021-23-17, further investigation by the manufacturer revealed that cracks found on propeller hubs likely resulted from propeller blade retention nuts that were not tightened using published service information during blade installation. This proposed AD would retain the required actions of AD 2021-23-17. This proposed AD would also require a maintenance records review and, depending on the results of the maintenance records review, tightening of each propeller blade retention nut to specific torque values. Depending on the results of the maintenance records review, this proposed AD would require physically inspecting the propeller blade for shake. If any axial play is detected during the performance of the inspection, this proposed AD would require the removal of the propeller from service and the performance of an NDT inspection of the propeller hub. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to www.regulations.gov. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Hoffmann GmbH & Co. KG, K pferlingstrasse 9, 83022, Rosenheim, Germany; phone: +49 0 8031 1878 0; email: info@hoffmann-prop.com; website: <https://hoffmann-prop.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at www.regulations.gov by searching for and locating Docket No. FAA-2022-0980; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Michael Schwetz, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7761; email: 9-AVS-AIR-BACO-COS@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-0980; Project Identifier MCAI-2022-00448-P” at the beginning

of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Michael Schwetz, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2021-23-17, Amendment 39-21815 (86 FR 68905, December 6, 2021), (AD 2021-23-17), for all Hoffmann GmbH & Co. KG model HO-V 72 propellers. AD 2021-23-17 was prompted by reports of cracks at different positions on two affected propeller hubs. AD 2021-23-17 requires amending the existing AFM by inserting abnormal propeller vibration instructions, visual inspection and NDT inspection of the propeller hub and, depending on the results of the inspections,

replacement of the propeller hub with a part eligible for installation. The agency issued AD 2021-23-17 to prevent failure of the propeller hub.

Actions Since AD 2021-23-17 Was Issued

Since the FAA issued AD 2021-23-17, the European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2022-0061, dated April 4, 2022 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

Cracks have been reported at different positions on two affected parts, both installed on Slingsby T67 “Firefly” aeroplanes. One crack was found during scheduled inspection, the other crack during an unscheduled inspection after abnormal vibrations occurred. Subsequent investigation determined that improper tightening of blade nuts has caused or contributed to those events.

This condition, if not detected and corrected, could lead to in-flight propeller detachment, possibly resulting in damage to the aeroplane and/or injury to persons on the ground.

To address this potential unsafe condition, Hoffmann Propeller issued the SB, providing applicable instructions, and EASA issued Emergency AD 2020-0226-E (later revised [to EASA AD 2020-0226R1]) to require inspections of affected parts and, depending on findings, replacement.

That AD also required, for certain aeroplanes, amendment of the applicable Aircraft Flight Manual (AFM).

Since that [EASA] AD was issued, further investigation revealed that not all propeller blade nuts were tightened in accordance with the Hoffman Propeller blade nut tightening procedure B2.23 which requires a certain over-torquing and loosening of the blade nut to limit a preload reduction due to material settlement. Prompted by this development, Hoffmann Propeller issued SB057 (incorporating blade nut tightening procedure B2.23) providing torquing instructions, and SB58 providing instructions for setting correct counterweight angles. Additionally, Hoffmann Propeller

issued the torque tightening SB (referencing SB57 and SB58) providing inspections and corrective action instructions.

For the reasons described above, this [EASA] AD retains the requirements of EASA AD 2020-0226R1, which is superseded, and requires additional blade checks, inspections, and re-tightening of the propeller blade nuts.

You may obtain further information by examining the MCAI in the AD docket at www.regulations.gov by searching for and locating Docket No. FAA-2022-0980.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed the following service information:

- Hoffmann Propeller Service Bulletin SB057 C, dated February 22, 2022. This SB specifies procedures for tightening the propeller blade retention nut.
- Hoffmann Propeller Service Bulletin SB059 B, dated February 23, 2022. This SB specifies procedures for tightening the propeller blade retention nut with the correct torque and inspecting the propeller blade for shake.

This proposed AD would also require Hoffmann Propeller GmbH & Co. KG Service Bulletin SB E53 Rev. D, dated February 18, 2021, which was previously approved by the Director of the Federal Register for incorporation by reference on January 10, 2022 (86 FR 68905, December 6, 2021). The service bulletin describes procedures for visual and NDT inspections of the propeller hub for cracks.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Other Related Service Information

The FAA reviewed the following service information:

- Hoffmann Propeller Service Bulletin SB058 A, dated February 2, 2022. This SB specifies the updated definition of the counterweight angle.

Proposed AD Requirements in this NPRM

This proposed AD would retain all of the requirements of AD 2021-23-17. This proposed AD would also require a maintenance records review and, depending on the results of the maintenance records review, tightening of each propeller blade retention nut to specified torque values. Depending on the results of the maintenance records review, this proposed AD would require initial and repetitive physical inspections of the propeller blade for shake. If any axial play is detected during inspection, this proposed AD would require the removal of the propeller from service and the performance of an NDT inspection of the propeller hub.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 35 propellers installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Amend AFM	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$2,975
Visually inspect propeller hub	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$2,975
NDT inspect propeller hub	8 work-hours x \$85 per hour = \$680	\$0	\$680	\$23,800
Review maintenance records	0.5 work-hours x \$85 per hour = \$42.50	\$0	\$42.50	\$1,487.50

The FAA estimates the following costs to do any necessary actions that would be required based on the results of the proposed inspections. The agency has no way of determining the number of aircraft that might need these actions:

On-condition costs

Action	Labor Cost	Parts Cost	Cost per product
Replace propeller hub	5 work-hours x \$85 per hour = \$425	\$1,600	\$2,025
Inspect propeller blade for shake	0.25 work-hours x \$85 per hour = \$21.25	\$0	\$21.25
Tighten propeller blade retention nuts	2 work-hours x \$85 per hour = \$170	\$0	\$170

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 2021-23-17, Amendment 39-21815 (86 FR 68905, December 6, 2021); and

b. Adding the following new airworthiness directive:

Hoffmann GmbH & Co. KG: Docket No. FAA-2022-0980; Project Identifier MCAI-2022-00448-P.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2021-23-17, Amendment 39-21815 (86 FR 68905, December 6, 2021) (AD 2021-23-17).

(c) Applicability

This AD applies to Hoffmann GmbH & Co. KG (Hoffmann) model HO-V 72 propellers.

(d) Subject

Joint Aircraft System Component (JASC) Code 6114, Propeller Hub Section.

(e) Unsafe Condition

This AD was prompted by reports of cracks at different positions on two affected propeller hubs. The FAA is issuing this AD to prevent failure of the propeller hub. The

unsafe condition, if not addressed, could result in release of the propeller, damage to the airplane, and injury to persons on the ground.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Before the next flight after December 22, 2020 (the effective date of AD 2020-25-05, Amendment 39-21347 (85 FR 78702, December 7, 2020)), amend the emergency or abnormal procedures section of the existing aircraft flight manual by inserting this text: “Abnormal propeller vibrations: As applicable, reduce engine RPM.”

(2) Before the next flight after January 10, 2022 (the effective date of AD 2021-23-17), and thereafter, before the next flight after any flight where abnormal propeller vibrations have been experienced, visually inspect propeller hub HO-V 72 () () - () - () for cracks using paragraph 2.1 of Hoffmann Propeller GmbH & Co. KG Service Bulletin SB E53, Rev. D, dated February 18, 2021 (Hoffmann Propeller SB E53 Rev. D).

(3) Within 20 flight hours (FHs) after January 10, 2022 (the effective date of AD 2021-23-17), perform a non-destructive test (NDT) inspection of propeller hub HO-V 72 () () - () - () using paragraph 2.3 of Hoffmann Propeller SB E53 Rev. D.

(4) During each overhaul of propeller hub HO-V 72 () () - () - () after January 10, 2022 (the effective date of AD 2021-23-17), perform an NDT inspection using paragraph 2.3 of Hoffmann Propeller SB E53 Rev. D.

(5) Within 30 days after the effective date of this AD, review the maintenance records to confirm the propeller blade retention nuts were tightened at the last in-shop maintenance visit to the torque values in paragraph 5 of Hoffmann Propeller Service Bulletin SB057 C, dated February 22, 2022 (Hoffmann Propeller SB057 C).

(6) If, during the records review required by paragraph (g)(5) of this AD, it is determined that the propeller blade retention nuts were not tightened to the torque values in paragraph 5 of Hoffmann Propeller SB057 C, or it cannot be confirmed if the propeller blade retention nuts were tightened to the torque values in paragraph 5 of Hoffmann Propeller SB057 C, perform the following actions:

(i) Within 90 FHs after the effective date of this AD, tighten each propeller blade retention nut to the torque values in paragraph 5 of Hoffmann Propeller SB057 C, using paragraphs 6 and 7 of Hoffmann Propeller Service Bulletin SB059 B, dated February 23, 2022.

(ii) Before the next flight after the effective date of this AD and, thereafter, before each flight until the propeller blade retention nut is tightened to the torque values in paragraph 5 of Hoffmann Propeller SB057 C, as required by paragraph (g)(6)(i) of this AD, confirm that there is no axial play in the blade retention system by inspecting the propeller blade for shake. If any axial play is detected, remove the propeller from service and perform an NDT inspection of the propeller hub using paragraph 2.3 of Hoffmann Propeller SB E53 Rev. D.

(7) If, during any inspection required by paragraph (g)(2), (3), (4) or (6)(ii) of this AD, any crack is detected, replace propeller hub HO-V 72 () () - () - () with a part eligible for installation.

(h) Definition

For the purpose of this AD, a “part eligible for installation” is a propeller hub HO-V 72 () () - () - () with zero hours time since new, or a propeller hub HO-V 72 () () - () - () that has passed an NDT inspection using paragraph 2.3 of Hoffmann Propeller SB E53 Rev. D.

(i) Non-Required Actions

(1) Sending the propeller to Hoffmann for investigation, as contained in paragraph 2.1 of Hoffmann Propeller SB E53 Rev. D, is not required by this AD.

(2) Reporting propeller hubs with cracks to Hoffmann, as contained in paragraph 2.3 of Hoffmann Propeller SB E53 Rev. D, is not required by this AD.

(j) Credit for Previous Actions

(1) You may take credit for the initial visual inspection and NDT inspection of the propeller hub required by paragraphs (g)(2), (3), and (4) of this AD if you performed any of these actions before January 10, 2022 (the effective date of AD 2021-23-17) using Hoffmann Propeller GmbH & Co. KG SB E53, Rev. A, dated October 9, 2020; Rev. B, dated October 14, 2020; or Rev. C, dated December 9, 2020.

(2) You may take credit for the records review to confirm the propeller blade retention nuts were tightened to the torque values as required by paragraph (g)(5) of this AD, and the tightening of each propeller blade retention nut as required by paragraph (g)(6)(i) of this AD if you performed any of these actions before the effective date of this AD during the last in-shop maintenance visit using Hoffmann Propeller Service Bulletin SB057 B, dated February 8, 2022; Hoffmann Propeller Service Bulletin SB059 A, dated February 11, 2022; or Hoffmann Propeller Service Bulletin SB059 B, dated February 23, 2022.

(k) Special Flight Permit

A special flight permit may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the airplane to a service facility to perform the NDT inspection. Special flight permits are prohibited to perform the visual inspection of the propeller hub.

(l) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Boston ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (m)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(m) Related Information

(1) For more information about this AD, contact Michael Schwetz, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7761; email: 9-AVS-AIR-BACO-COS@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2022-0061, dated April 4, 2022, for more information. You may examine the EASA AD in the AD docket at www.regulations.gov by searching for and locating it in Docket No. FAA-2022-0980.

(3) For service information identified in this AD, contact Hoffmann GmbH & Co. KG, K pferlingstrasse 9, 83022, Rosenheim, Germany; phone: +49 0 8031 1878 0; email: info@hoffmann-prop.com; website: <https://hoffmann-prop.com>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

Issued on July 22, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-16192 Filed: 7/29/2022 8:45 am; Publication Date: 8/1/2022]